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MISS ELEANOR A. ORMEROD.

Entomology in England has suffered a great loss through the death of this talented and estimable lady, who died at her residence, Torrington House, St. Albans, on Friday, July 19th. Practical entomologists throughout the world are moved with profound regret that a career so remarkable and so useful should be brought to a close, but one could hardly hope that the aged lady would long be able to sustain the burden of increasing infirmities and the trials of a painful and protracted illness.

Miss Ormerod was born at Sedbury Park, Gloucestershire, on May 11th, 1828, and had thus entered upon her 74th year. She was the youngest of a family of ten, seven of them sons, all of whom she survived. Her father, Mr. George Ormerod, LL. D., F. R. S., F. S. A., etc., was a distinguished literary man and the author of a notable "History of Cheshire"; her mother was a daughter of Dr. John Latham, F. R. S., at one time President of the College of Physicians. On both sides, therefore, she inherited literary and scientific tastes, and at an early age displayed a love for natural history and outdoor pursuits. As her father became advanced in years, it devolved upon her to take a large share in the management of his estates, which included a home-farm, and in this way, no doubt, she was led to give the practical turn to her entomological investigations which caused them to be of so much public value afterwards. She also when quite young took an interest, that she continued to maintain throughout her life, in meteorological observations, and in course of time published "The Cobham Journals" of meteorological and phenological records made by Miss Molesworth at Cobham in Surrey. She was the first lady to be admitted as a Fellow of the Royal Meteorological Society, as she was also the first lady to receive (last year) the honorary degree of Doctor of Laws at the University of Edinburgh. Among other honours bestowed upon her may be mentioned the Silver Medals of the Société Nationale d'Acclimation of France and the Royal

Horticultural Society of England; the Gold Medal of Honour and two Silver Medals from the University of Moscow; and Honorary Membership in many Scientific Societies both in Europe and America.

Among her entomological publications may be mentioned the "Manual of Injurious Insects," 1881; "Guide to Methods of Insect Life," 1884; "Injurious Insects of South Africa," 1889; "A Text-book of Agricultural Entomology"; and the long series of "Annual Reports of Injurious Insects and Common Farm Pests," from 1878 to 1901. The last of these Reports, the twenty-fourth volume, we noticed in the May number of this magazine, and gave some account of their great practical value and the wide range that they cover.

Miss Ormerod was one of the most remarkable women of the latter half of the nineteenth century, and did more than any one else in the British Isles to further the interests of farmers, fruit-growers and gardeners, by making known to them methods for controlling and subduing their multiform insect pests. Her labours were unwearied and unselfish; she received no remuneration for her services, but cheerfully expended what means she possessed in carrying out her investigations and publishing their results. We know not now by whom in England this work can be continued; it is not likely that any one can follow in the unique path laid out by Miss Ormerod; we may therefore cherish the hope that the Government of the day will hold out a helping hand and establish an entomological bureau for the lasting benefit of the great agricultural interests of the country.

C. J. S. B.

ON TYPES OF ACRONYCTA, ETC.

BY A. RADCLIFFE GROTE, A. M., HILDESHEIM, GERMANY.

The following comments upon Prof. Smith's paper in CAN. ENT. for Nov., 1900, 333, have suggested themselves to me. The types of *Acronycta* there discussed are the specimens in Brit. Mus. Coll., and in several instances my determinations are now adopted by the author.

A. pallidicoma, Grote.

This name is cited without comment, except that the type is a small female (334). It would have been more to the point if this name had been identified with one of the "two series into which *xyliniformis* allows itself to be so prettily divided" (Sm. and Dyar, p. 149). Whether as applied to a form or a species, the name is valid. It is not *xyliniformis* as

identified by me, nor did I ever determine this species as *spinigera*, so that the reference (l. c. 167) to my "lists and collection" is erroneous. I named originally *xyliniformis* for Prof. Riley, who published it in the Missouri Reports.

A. impressa, Wlk.

I had previously, after seeing types, considered *impressa*, *fasciata* and *Verrilli* as referring to one identical species. I did not, however, originally determine this species as *brumosa*. I took the, as it now appears, erroneous identification from Mr. Morrison, to whom it should be credited. I only knew *brumosa* from Guenée's description, which I could not myself identify. Mr. Walker's descriptions were quite unintelligible to me, and there was no guarantee that they referred positively to species of *Acronycta* at all.

A. brumosa, Guen.

After referring my *subochrea* to this, the name, following Mr. Butler, is now identified with *persuasa*. It has always seemed improbable to me that this latter Southern species should have been intended by Guenée, and I should not drop a well-founded name on the chance. Probably when Guenée's types, Coll. Oberthür, are examined, these names may be changed back again, and I should advise students to retain *persuasa*. Later on, in the same paragraph, the author says that Mr. Butler "was correct in uniting *brumosa* and *superans*." If so, Mr. Butler must have made another mistake. Indeed, it cannot well be that *brumosa* is both *persuasa* and *superans*. What *brumosa* really is, is hardly settled by the specimen in Brit. Mus. Guenée told me in 1867 that he had many of his types, and showed me several in separate glass boxes, comparing them with what specimens of *Acronycta* I had brought with me to Chateaudun. Guenée stated at the same time that he had returned other specimens (in some cases the cotypes, as I understood) to Doubleday. Guenée's specimens, Coll. Oberthür, must be gone over before his names in this genus can be finally decided upon.

A. subochrea, Grote.

This name is now validated, as I contended it should be.

A. impleta, Wlk.

I have not the Brit. Mus. Cat. at the moment to again refer to, but I believe this name was founded upon a fragment, hind wings and body

wanting. The description is thus additionally useless for identification, and the name so founded should be dropped.

A. hamamelis, Guen.

This identification was given us by Guenée. It now seems probable that Guenée had "mixed up" the species, and that "a very dark form of what we call *hamamelis* being easily confounded with *afficta*," Guenée sent an *afficta* to Doubleday and kept his other type, a dark *hamamelis*. The rule would then in any event validate *afficta* as being properly differentiated. The two species would stand :

1. *A. afficta*, Grote.

= *A. hamamelis*, Guen., in pars (spec. as type in Coll. B. Mus.).

2. *A. hamamelis*, Guen., in pars (spec. in Coll. Guen.).

= *A. inclara*, Sm.

It would prevent much confusion if the names as above were retained.

A. haesitata, Grote.

This name is now validated. It was evidently owing to my remark in *Psyche* that Sm. and Dyar positively made the name a synonym of *clarescens*. I then admitted the possibility, referring to Mr. Butler's identifications, that *clarescens* might have been founded on a large pale *hamamelis* (= *in Clara*). This brief characterization covers very well and suggests my *haesitata*.

A. clarescens, Guen.

The identification of this species by me in American collections is now validated. Guenée, at the time, in comparing his type with my material, was a little doubtful. But I thought, on the whole, that he was satisfied with the determination, so I adopted it and labeled my example.

A. increta, Morr.

I wish to say here that any jumbling of the species in Coll. B. Mus. is not my work. The rearrangement of Mr. Walker's material is the work of Mr. Butler, whom Mr. Tutt, and, indeed, Prof. Smith as well, has criticised for his want of familiarity with the Noctuidæ. Mr. Walker had no type labels. The sorting out of specimens as his "types" is therefore uncertain at Mr. Butler's hands, especially in the cases which occurred where more than one species was placed by Mr. Walker over one printed label. The

determinations made by myself and Mr. Robinson, and later by Prof. Fernald, before the Walker collection was meddled with, are entitled to credit. In other cases we must fall back on the description in the B. M. Cat., bad as this may be. Anything which contradicts a supposed identification should be sufficient to overturn it, no matter what the so-called "type" may be.

A. exilis, Grote.

I am glad this form, or species, is at last differentiated and that the correctness of Mr. Butler's earlier remarks is vindicated.

A. insolita, Grote.

The type was not originally a "very poor" specimen. After description it became entirely greasy, and I bathed it in ether, which gave it a somewhat crumpled look. The original colour and marks came out again, however; the blackish general hue, against which the gray marks of the t. p. line clearly contrast, could not suggest to me *lanceolaria*. However, the mystery about this species may be now on its way to solution. The name is in any event valid, if applied to a black form of *lanceolaria*.

In the present paper, I refrain from any discussion on the generic titles as to which I am at variance with Smith and Dyar.

Assuredly, types must look typical, and certainly some of the British Museum so-called types of Walker and Guenée do not look so, for which there is the best of reasons. They have partly been sorted over and made into types, or they have been mistakenly labeled, or the labels were mere determinations of the species not having the force of types. The specimens of *Acronycta* may include all these categories. As the Guenée labels are not final until Oberthür's collection is examined, what I conclude is, that the changes, back and forwards, proposed by Prof. Smith, are tentative merely. It is wrong to consider them authoritative or conclusive, for the determinations in Smith and Dyar's "Revision of *Acronycta*" are put forward in a positive manner, and now they are equally positively contradicted by Prof. Smith. It would have been well, as it turns out, if my original determinations had been let alone. As it seems, I understood the species of N. Am. *Apatela*, generally speaking, sufficiently well. The new, mostly Western species, could have been properly added and the "Revision" bided its time.

CYPHODERRIS MONSTROSA.

BY LOUIS W. TURLEY, UNIVERSITY OF IDAHO.

Some time ago, I read a very interesting article, by Dr. S. H. Scudder, in the CANADIAN ENTOMOLOGIST, on *Cyphoderris monstrosa*. The rarity of the insect, as set forth by Dr. Scudder's article, has led me to write the observations, of myself and others in this section, on an Orthopteran identified by Professor Aldrich and Professor Bruner as the above-named insect.

In June of 1899, while walking through a pasture near Moscow, at dusk one evening, I heard a great many short, intermittent chirps, similar to the song of *Oecanthus fasciatus*; but more subdued and ventriloquial, and with longer pauses between the measures. I supposed them to be the songs of crickets, but never before having heard songs like them, I decided to make an acquaintance with their authors.

Carefully I followed first one and then another to its seeming source, when, will-o'-the-wisp-like, it would be somewhere else. I began to think that perhaps they were birds, and that when I came too near they would run elsewhere, for, once having ceased, no more sound came from that spot, even though I moved away and remained quiet for some time. But at last I traced one which continued to sing, although I was but a foot or two from it. I looked cautiously and carefully about, but noticed only what appeared to be the empty capsule of a fleur-de-lis of last year. The song continued. I listened. Yes, that was the place. There was no mistake. It was only a foot or so from my ear. Seized by a burning curiosity to know this spirit songster, I quickly struck a match. At the appearance of the light, the supposed capsule began slowly to move down the dry stem. I could not make out just what it was. It did not appear like a cricket; besides, a cricket would have hopped instead of slowly crawling. But what else sang that way but an Orthopteran? However, there was no time to lose, he was almost to the grass. I had nothing to put him in, but could not afford to allow him to escape, so grasped him.

He took his capture as a matter of course, making no struggle to free himself. Elated by my success, I decided to push my conquest farther, and, after waiting and listening for about half an hour, I captured another. They lay perfectly still in my hand. I took them to my room, put them in a tumbler and lighted a lamp. They did not seem to like

the light, but crawled about trying to find an egress. Whenever they met they fought ferociously, like two cats, one or both lying down, kicking and biting. After some time I separated them, and they sang to each other the remainder of the night.

The next evening I again visited the field just after sundown, and found several specimens crawling up posts, strong grass-stems and other objects which would allow them to get several inches above the ground. While singing, the male stands head downward, several inches to a foot above the ground, on any object sufficiently high, in the meadow. In this position, presumably to facilitate their escape when disturbed, being slow of motion, they stridulate with their short, broad, round-pointed, parchment-like wings. Their song, as I said before, consists of short, subdued yet distinct measures, intervened by long pauses.

Although I found a great many of them in that, as well as similar places, I found only males. Professor Aldrich also searched, with the same success as I. No females have been seen in this vicinity. They did no apparent damage, so we thought no more about them until this spring, when Professor Aldrich received a letter from Mr. Stanley, of Coeur d' Alene, Idaho, complaining of great damage done to fruit trees by a peculiar cricket. Mr. Stanley sent us specimens of his persecutors, and, on opening the box, we were surprised to recognize our old friend, *C. monstrosa*, but contrary to our captures, all the specimens sent us were females.

In Mr. Stanley's letter dated May 23rd, 1901, he says: "They all live in holes in the ground during active service, which is in the spring, as soon as the flower-buds of the peach and cherry begin to open, until June. They prefer the above-named fruits to any other, but are destructive to apples and pears—in fact, nothing in the fruit line escapes them, and they do not seem to eat anything else when a fruit tree is in the vicinity.

"The great problem is to kill them when the peach and cherry trees are in bloom, for if they are left unmolested at that time they will so ruin the fruit-buds that the crop will be severely injured on large trees of all kinds, and entirely destroyed on those five and six years old."

Mr. W. W. Yother, Horticultural Inspector for northern Idaho, visited Mr. Stanley. He said that the most destructive visit of the crickets lasted about three weeks during May. He also says that the

most successful means of combating them, as so far ascertained, is to spread sheets under the trees at night, and shake the crickets on to them. Mr. Stanley fed the crickets gathered thus to the chickens, who devoured them greedily. At this writing, we have not heard of *C. monstrosa* from any other section, except those mentioned by Professor Scudder.

AN ANTIDOTE TO INSECT-BITES.

BY CHARLES STEVENSON, MONTREAL.

During a trip to Paraguay to study the mosquito pest, Prof. Voges, the Director of the National Board of Health at Buenos Ayres, accidentally discovered a remedy for mosquito bites. He had a supply of all kinds of substances, among which was naphthalene, a chemical of no use whatever against the mosquito itself. A surprising result was produced on rubbing this chemical on mosquito bites. Even when the part stung was greatly inflamed, it had the effect of neutralizing the insect-poison. By rubbing it on the spot immediately after a person has been bitten, the swelling that usually follows does not arise.

Soon after hearing of the above remedy, I suggested, more in fun than in earnest, to a person who was being tortured by flea-bites, to rub them with a naphthalene or "moth" ball. Almost instant relief came after a good rubbing of the lumps raised by the bite, with a permanent disappearance of the painful irritation that generally lasts so long.

Personally, I have found "moth" balls a ready relief for the bites of gnats, and also the larger Diptera, as well as mosquitoes. A "moth" ball is such an easy thing for a person to carry round with him that it is well worth the trial of all entomologists on any stings or bites they may receive during any of their excursions. To get good results the "moth" ball must be well rubbed on the affected part for a few minutes.

Most entomologists use this chemical in the form of cones or balls for the protection of their collections. But I get better results from using it in its crystalline form, sprinkled in the cases now and again. It is entirely volatile when it is in its pure state, and the purest commercial quality is the crystalline and should leave no residue on evaporating in the cases. It not only keeps out insect mites, but also prevents mould, destroys bacteria and schizomycetes, and, being neutral, it has no reaction on paper or colours of the insects. But, most important to the user, it is not poisonous to man.

ON SOME GENERA OF STAPHYLINIDÆ, DESCRIBED BY
THOS. L. CASEY.

BY E. WASMANN, S. J., LUXEMBURG.

1. In his *Coleopterological Notices*, V., p. 594, Mr. Casey described a new genus of *Aleocharini* under the name of *Myrmobiota (crassicornis*, Cas., n. sp.) as allied to *Homœusa*, Kr. The only specimen was captured at Iowa City (Iowa) by Mr. H. F. Wickham. Some time afterwards I received three specimens of an insect very like our *Homœusa*, under the name of *Myrmobiota crassicornis*, Cas., one directly from Mr. Wickham (captured at Iowa City, June 6, 1896), two through the kindness of Rev. P. J. Schmitt (captured by Wickham at Iowa City, bearing Wickham's number, 9561). After having compared this species attentively with our *Homœusa acuminata*, I could not doubt that it belonged to the same genus as the latter. I published a note on this subject in the *Tijdschrift voor Entomologie*, XLI., 1898, p. 11, declaring *Myrmobiota* to be the same genus as *Homœusa*.

Meanwhile, Mr. Casey described in *Journ. New York Entom. Soc.*, VIII., No. 2, June, 1900, p. 53-54, two new genera allied to *Homœusa* and *Myrmobiota*: *Soliusa* and *Decusa*. As to my identification of *Myrmobiota crassicornis* with *Homœusa*, he suggested Mr. Wickham might have sent me a *Soliusa* under the name of *Myrmobiota*.

Not knowing yet this last paper, which Casey kindly communicated to me later, I had sent him a typical specimen of our European *Homœusa acuminata* without indication of locality, and asked him whether this species was not a *Myrmobiota*. But he answered it seemed to be a true *Homœusa*, as it was indeed.

After having studied the comparative description of the genera *Homœusa*, *Myrmobiota*, *Soliusa* and *Decusa*, and having compared it with my specimens, I can give the following explanation:

(a) The three specimens of " *Myrmobiota crassicornis*," from Mr. Wickham, in my collection are indeed *Soliusa crinitula*, Casey, as Mr. Casey has suggested.

As to the value of Casey's three new genera allied to *Homœusa*, the following is my opinion :

(b) *Decusa*, Cas. (*expansa*, Lec.), is certainly a good new genus, having 10-jointed antennæ (*Homœusa*, *Soliusa* and *Myrmobiota* have 11-jointed antennæ), besides other differences; it was quite necessary to

create a new genus for *Hom. expansa*, Lec., and I fully agree with Mr. Casey on this point.

(c) *Soliusa* cannot be divided generically from *Homæusa*.

(d) *Myrmobiota* cannot be divided generically from *Homæusa*.

(ad c) The only important differences between *Soliusa* and *Homæusa* are: The two basal tergites narrowly and deeply impressed in *Homæusa*, not impressed in *Soliusa*; the basal joint of the posterior tarsi nearly (or fully) as long as the next two combined in *Homæusa*, distinctly shorter than the next two combined in *Soliusa*. The first difference is no generic one, but only a specific one; the second is sometimes a generic, sometimes only a specific difference [e. g., in *Lomechusa mongolica*, Wasm., the first joint of the posterior tarsi is nearly twice as long as the second and twice as broad; in *Lomechusa strumosa*, F., it is only very little longer and scarcely broader than the second; similar differences exist also between *Atemeles pubicollis* and *paradoxus*, and between *Myrmæcia* (*Notaphra*) *lauta* and *lugubris*, Cas.]. If no other important differences join themselves to this one, it cannot be regarded as a generic, but only as a specific, difference.

(ad d) The only important differences between *Myrmobiota* and *Homæusa* are the thickness of the antennæ, the form of the thorax, and the relative length of the basal joint of the posterior tarsi, the latter difference being the same as between *Soliusa* and *Homæusa*. I refer to the above exposition. As to the thickness of the antennæ in *Myrmobiota*, this character may be only of specific value, if no other important differences are joined to it (cf. the different specific thickness of antennæ in the genus *Myrmecodia*, Er., or in the genus *Philusina*, Wasm.). As to the different form of the thorax, its sides being nearly parallel towards the base and with rectangular basal angles in *Homæusa*, evidently contracted towards the base with obtuse basal angles in *Myrmobiota*, the posterior margin being distinctly sinuated in *Homæusa*, not visibly sinuated in *Myrmobiota*, this difference could be a generic one if it were connected with other important differences; but it can be also merely a specific difference. This seems to be confirmed by the fact that the sides of the thorax are distinctly converging towards the base in some of my specimens of *Homæusa acuminata*, parallel in others. We must not forget that the form of the thorax is often widely different in different species of the same genus of myrmecophilous Aleocharini; cf. *Atemeles emarginatus*, Payk., and *paradoxus*, Grav.; *Lomechusa strumosa*, F., and

mongolica, Wasm. Between the last-named two species the sides of the thorax and the form of the posterior angles differ just as between *Myrmobiota* and *Homœusa*; in the first-named two species it differs even more.

Therefore, I conclude, if we accept the differences between *Homœusa*, *Soliusa* and *Myrmobiota* with Mr. Casey as generic ones, we would be obliged to create new genera for most of the "good species" among *Lomechusa*, *Atemeles*, etc. But this system cannot be adopted, because the number of genera would increase *ad infinitum* without necessity. I prefer, therefore, to consider *Myrmobiota crassicornis* and *Soliusa crinitula*, Cas., as good species of the old genus *Homœusa*, Kraatz.

The host of *Soliusa crinitula*, with which Mr. Wickham found my specimens, is *Lasius americanus*, Em., a race or variety of *Lasius niger*, L., with which our European *Homœusa acuminata*, Mærk., is living. I have also a specimen of *Soliusa crinitula*, found by Prof. W. M. Wheeler with *Las. aphidicola*, Walsh, at Colebrook, Conn.

2. In the same paper (Journ. New York Ent. Soc., VIII, n. 2, 1900, p. 55) Mr. Casey creates the new genus *Chitosa* for *Dinarda nigrita*, Rosenh., living with *Stenamma (Aphænogaster) testaceopilosum* in the Mediterranean region. I had *D. nigrita* in my collection already, long ago, and intended to describe it as a new sub-genus of *Dinarda*, the peculiar form of the ligula being quite identical with *Dinarda Hagensi, dentata*, etc. But I must confess that the extraordinary structure of the basal joint of the posterior tarsi, which Casey has described very well, is a sufficient character for a new genus sensu stricto, the more as it is connected with other important differences in the structure of the antennæ and of the prothorax.

The last four joints of the posterior tarsi in *Chitosa* seem to be in a process of degeneration, which would conduct finally to the very extraordinary form of the tarsi as described in the genera *Sympolemon*, Wasm., and *Doryloxenus*, Wasm. (Congo and S. Africa). It would be very important to know if *Dinarda clavigera*, Fauv. (Revue d'Entom., 1899, p. 33), from Abyssinia belongs also to *Chitosa*.

3. In his *Coleopterological Notices*, V., p. 321 and 327, Mr. Casey described a new genus of Aleocharini, *Nototaphra*, allied to *Myrmecodia*, Er. One of the two species of this genus, *Nototaphra lauta*, Cas., had been sent to me by Mr. E. A. Schwarz and Mr. Theo. Pergande as a new species found with *Tapinoma sessile*, Say, in Massachusetts by Mr.

Blanchard. Not knowing its identity with *Nototaphra lauta*, Cas. (1893), I had redescribed it in my "Kritisches Verzeichniss" (1894, p. 74 and 206) under the name of *Myrmacia picta*. In comparing it with our European *Myrmacia plicata*, Er., and *Fussi*, Kr., I found not the slightest generic difference. Also, Casey's description of *Nototaphra* coincides with that of *Myrmæcia*, Rey. Even the sexual differences—the males bearing large tubercles on certain dorsal segments of the abdomen, a very characteristic mark of *Myrmæcia*—are also present in *Nototaphra*. Therefore, *Nototaphra*, Cas., is a synonym of *Myrmæcia*, Rey., and my *Myrmæcia picta* must bear the name *Myrmæcia lauta*, Casey.

Also, some other new genera of Staphylinidae described by Mr. Casey may prove to be identical with older European genera by and by. In faunas of so near a relation as the palearctic and Nearctic, it is very difficult indeed to find out all generic affinity immediately; this is no reproach, therefore, to Mr. Casey's study. A good many of his new genera will prove really distinct from our European forms.

THE LIFE-HISTORY OF NANNOTHEMIS BELLA, UHLER.

BY R. WEITH AND J. G. NEEDHAM.

1. *Field Observations on the Habits of the Species*, by R. Weith.

Nannothemis bella, Uhl., is one of the smallest of dragon-flies. Of its life-history we have had no knowledge up to the present time. Until the publication of Williamson's Catalogue of the Dragon-flies of Indiana, last year, it was recorded only from our north-east Atlantic seaboard. I have frequently met with it in Elkhart and St. Joe Counties, the two northermost counties in Indiana; but, what has been most perplexing to me, only in a few very restricted areas, these areas not exceeding 50 yards in length by 25 yards in width from margin of lake. The only places I have met with it are at Simonton Lake, a distance of four and one-half miles from the City of Elkhart, Indiana, and Indiana and Baldwin Lakes, thirteen miles north-east of Elkhart, on the boundary line that divides Indiana from Michigan. In the latter place, on a smaller area than at Simonton Lake, the imago is very numerous. Frequent endeavors to find the species at other places where similar conditions prevail proved unsuccessful.

Unlike most other Odonata, the imagoes do not fly higher than a few feet above the ground, preferring to alight on the marsh grass and bask in the sunshine, where numerous small Diptera suitable for food hover over the little stagnant pools.

Professor J. G. Needham published in the *CANADIAN ENTOMOLOGIST*, Vol. XXXI., p. 69, 1900, a list of those of our native Odonate genera of which no nymphs were known, and spurred by his desire to obtain the nymph of *Nannothemis*, inasmuch as the imago is to be found here in abundance, I undertook in a systematic way the task of securing it for him. The time of emergence for imagoes of this species is, according to my records, June 6th to 25th; the period of flight continues until the end of July. I began my search on the 18th of April. Using a dragnet, I explored the shore and grass-fringed margin of the lake, near where the imago is found, but without success. These places yielded lots of other nymphs, but no *Nannothemis*. Then, collecting in those places in the marsh where the water is from one to three feet in depth among the rushes and sedges proved fruitless also. This convinced me that the home of the coveted nymph must be the almost dry marsh-land, with here and there a hole with a few inches of water in it. The holes were too small to allow the use of a net: I had to dip the water out with my hands. In them I was surprised to find a great number of *Libellula* nymphs, among which were two that proved to be the nymphs desired.

Not being able to find any more in these holes, I then searched thoroughly the debris which had been deposited on the marsh during high water, and which still lay in many places covered by a few inches of water. Here I found I could collect in an hour eighteen to twenty-five of them. But it was very trying on the collector, for the nymph of *N. bella* is the most sluggish insect I know of; *Stratiomyia* and *Odontomyia* larvæ, which are abundant in the same places, are race-horses in comparison. Removed from the water, the nymph clings closely to grass or debris of exactly its own colour, and does not stir even after letting this dry: so it is hard to see, and everything has to be picked over very carefully.

On June 22nd I found a number of females ovipositing, in the shallow places where I had found the nymphs, in temporary water one to two inches in depth and very warm. The female dips her abdomen to the surface, after the manner of all *Libellulines*, but only about three or four times, then rests on the grass a few minutes and then repeats.

The eggs are creamy-white, turning dark in a short time, with a scanty gelatinous envelope.

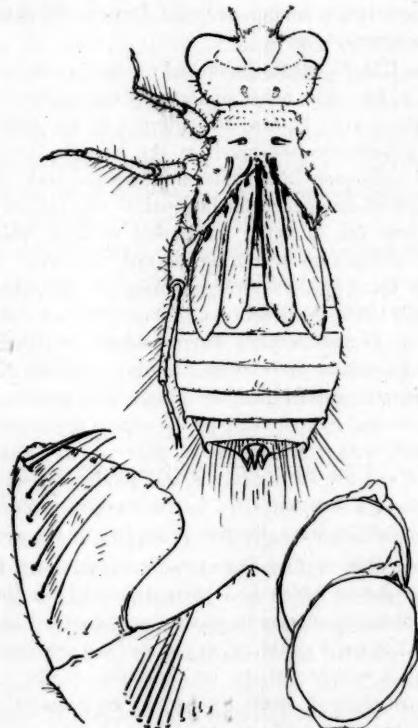


FIG. 8.

2. *Description of the Nymph*, by J. G. Needham.—Fig. 8.

The nymph, fully grown, measures in total length of body 10 mm.; abdomen, 5.5 mm.; hind femur, 3.5 mm.; width of head, 3.5 mm.; of abdomen, 4 mm.

Colour, almost uniform tawny yellowish-brown, paler below and on the sutures, more or less completely obscured by adherent vegetable debris. Body moderately hairy on lateral margins, especially hairy toward the end of the abdomen.

Head compact, one-third wider than long, scurfy, hairy above excepting a pair of bare spots near the hind margin, with prominent hemispherical eyes covering the antero-lateral angles, narrower behind the eyes, with parallel sides, rounded hind angles, and almost straight hind margin. Antennæ shorter than the head is long, 7-jointed, with scattering hairs along the distal joints. Labium extending posteriorly between the bases of the fore legs; median lobe broadly triangular, half as long as wide, rounded on tip, with two spinules close together just before the tip, and several others each side along the front border farther apart; raptorial setæ on the mentum, 10 each side, the fourth or fifth (counting from the side) longest, the three innermost ones quite small; lateral labial lobes ample, with six raptorial setæ, and a spinule at the base; hook straightish to the slender, slightly-incurred tip, hardly longer than the setæ, but much stouter; teeth almost obsolete, bi-spinulose.

Prothorax with prominent spiracles; legs hairy, especially the tibiae externally; tarsal claws not strongly incurved; second tarsal joint one-half longer than the first, and the third one-half longer than the second; wings reaching well upon the 6th abdominal segment.

Abdomen somewhat depressed, oblong, widest on the 6th segment, the 9th segment as wide as the 2nd, narrowed with extraordinary abruptness on the 10th segment, which is almost included within the apex of the 9th. No dorsal hooks at all; in their places are tufts of a few long hairs, and whitish spots in the anteapical membrane of the segments. Lateral spines on segments 8 and 9, hooklike, starting outward at base, and incurred at tip, on 8 one-half the length of the segment, on 9 a little longer than on 8. Hairs on the apical carinæ well developed, especially so on segment 9, which they completely encircle, constituting a long fringe which completely overhangs the 10th segment and the appendages. Appendages about as long as the 9th segment is on its slightly shorter dorsal side, lateral appendages a third shorter.

Since the discovery and description of the nymph of *Tachopteryx Thoreyi*, Sel., by Messrs. Atkinson and Williamson, last year, this species has remained the most important discovery to be made. It is our only representative of that singular group of Libelluline genera which Karsch called the Nannophyæ*. Mr. Weith's zeal and industry have brought this nymph to light, and there now remain of all the genera of Odonata of the northern United States and Canada but two in which no nymphs are known, and they are *Gomphæschna* and *Micrathyria*.

*Ent. Nachr., vol. xv., pp. 245-263.

A NEW GENUS IN THE CŒLIXINÆ.

BY E. S. G. TITUS, URBANA, ILLINOIS.

Chrysopheon, new genus.

General shape and appearance of an *Epeorus*; labrum very long, rounded transversely, labial palpi 4-jointed, first joint longest, third and fourth subequal; maxillary palpi 2-jointed, second joint longest and tapering, maxillæ long, sickle-shaped and convoluted; scutellum with two short slightly-incurved spines, postscutellum produced medially into a short, sharp, upturned tooth; marginal cell longer than first, narrowed above; receiving both recurrent nervures, claws bifid, inner tooth shortest, no pulvilli; abdomen convex, densely pubescent and banded, last segment of female bare, narrowed slightly and emarginate a very little at tip.

Differs from *Dioxys*, Lepel., by second sub-marginal cell longer than first, and by first joint of labial palpi being longer than second; from *Hoploasites*, Ashm., by the colour of the abdomen as well as other characters; from *Biastes*, Panzer, by shape of abdomen and by palpal characters.

Chrysopheon aurifuscus, new species.

♀.—Black; pubescence golden-brown; head closely, confluent punctured, clypeus coarsely, closely punctured with an elevated smooth carina on its anterior edge; labrum narrowed near base and truncate at anterior end, confluent punctured, except at base, where it is longitudinally striate, striae separate; mandibles black, bidentate with outside groove; face with rather long hair, occiput and cheeks with shorter hair; antennæ black; base of metathorax with a row of regular pits, much as in some *Colletes*; pubescence of dorsum of metathorax short; on pleura, scutellum and sides of metathorax longer, denser; wings clouded with a few hyaline spots; tegulae reddish-testaceous, hairy, punctured, shining; stigma black; legs with sparse glittering golden-brown pubescence, tarsi reddish; first four dorsal segments of the abdomen with dense short pubescence, on apical margins heavier and forming distinct hair-bands; fifth segment with a narrow apical band, sixth segment bare, narrowed very slightly towards the tip, longer than wide and slightly emarginate at tip; first five ventral segments with strongly visible hair-bands, that on first narrower than others and all five segments sparsely pubescent with short hair; last segment smooth, rounded at tip, and shorter than the last dorsal segment; abdomen with close medium-sized punctures; ventrally the punctures are larger and more separate. Length 12 mm.

Habitat.—Colorado. Described from two females taken on Horse-tooth Mt., near Ft. Collins, altitude 7,500 ft., June 14, 1899, on *Monarda citriodora* and *Chrysop villosus*.

The types are in the collection of the Colo. Agr'l College.

Prof. Cockerell suggested to me that perhaps this was near *Melecta mucida*, Cress., and that that species might belong to the same genus. The type of *M. mucida* is in Acad. Nat. Sc. of Philadelphia. Mr. Vierick writes me from there that the mouth-parts are entirely concealed.

NOTES ON THE GENUS OSMIA.

BY E. S. G. TITUS, URBANA, ILLINOIS.

The maxillary palpi of *Osmia* (sens. lat.) are given by most authors as *four-jointed*. I have examined the maxillary palpi of sixteen species in this group, and find in every instance that these palpi are *five-jointed*. The first joint is usually small, sometimes globular in shape, and visible with a hand-lens only under very favorable conditions. The following species were examined: From the coll. of the State Agr'l College of Colorado—*O. armaticeps*, Cr.; *Coloradensis*, Cr.; *dubia*, Cr.; *fulgida*, Cr.; *integra*, Cr.; *lignaria*, Say, and *mandibularis*, Cr., all from Colorado.



FIG. 9.

From the U. S. Nat. Museum—*O. abjecta*, Cr. (Calif.); *albiventris*, Cr. (Can.); *armaticeps*, Cr. (Colo.); *Californica*, Cr. (Calif.); *chalybea* (Fla.); *cobaltina*, Cr. (La.); *densa*, Cr. (V. I.); *distincta*, Cr. (Penn.); *dubia*, Cr. (Colo.); *lignaria*, Say (Kans., Ga.); *integra*, Cr. (Colo.), and *marginipennis*, Cr. (La.). From the collection of Mr. Wm. H. Ashmead—*O. Californica*, Cr. (Wash.); *chalybea* (Wash.); *cobaltina*, Cr. (La.); *distincta*, Cr. (Wis.). From Ohio University—*O. chalybea*, Sm., and *lignaria*, Say; also a few other specimens from various places—*O. chalybea*, Sm. (N. J.); *albiventris*, Cr. (Penn.); *lignaria*, Say (Wis., Penn.), and *megacephalus*, Cr. (Penn.).

I wrote to Prof. Cockerell regarding these facts, and under date of May 20, 1901, he replies: “I hasten to assure you that *Osmia* has 5-jointed maxillary palpi. * * * To make the thing doubly sure, my wife and I just now examined the maxillary palpi of the following species, and they are all 5-jointed: *O. lignaria*, *O. cornuta* (Europe), *O. phenax*, *O. albiventris*, *O. Kincaidii*, *O. brevis*, *O. calla*, *O. nanula*.”

I am under obligations to Prof. C. P. Gillette, for the use of the material in the coll. Colo. Agr'l College ; to Mr. W. H. Ashmead, for the loan of specimens from the U. S. Nat. Museum, and from his own collection ; to Prof. Osborn, for specimens loaned me from Ohio University collection ; and to Prof. Cockerell and Mr. W. J. Fox, for determinations and other favours.

THREE NEW SPECIES OF CULICIDÆ.

BY D. W. COQUILLETT, WASHINGTON, D. C.

During his extensive investigation of the mosquitoes of this country, Dr. L. O. Howard encountered three apparently new forms, and in order that these may be referred to intelligently in his correspondence and otherwise, he has instructed the writer to name and characterize them in one of our entomological journals. The descriptions are therefore offered herewith :

Psorophora Howardii, new species.

Male.—Head black, upper half of occiput covered with appressed white scales, except a narrow median stripe, hairs black ; first joint of antennæ yellow, second joint black, its extreme base yellow, the two terminal joints black, remainder of antennæ alternate black and whitish, the plumosity black changing to whitish at the tips ; mouth-parts black, base of third joint of palpi yellow, palpi covered with violet-purple appressed scales, the last joint narrower than the preceding, tapering to the apex, its hairs sparse and very short, the penultimate joint and apical fifth of the preceding bearing many rather long hairs ; body black, the humeri yellow, pleura and sides of mesonotum bearing many appressed white scales, abdomen on upper side covered with appressed violet-purple scales, those on the first segment and a few at the hind angles of some of the other segments white ; wings hyaline, first basal cell much longer than the second, petiole of first submarginal cell subequal in length to the cell ; femora yellow, the apices black and on the under side fringed with rather long, narrow, nearly erect scales, remainder of femora thinly covered with appressed violaceous scales ; front and middle tibiae yellow, their apices brown, thinly covered with appressed violaceous scales, hind tibiae brown, the extreme bases yellow, covered with appressed violet-purple scales interspersed with many suberect brown ones ; tarsi brown, the first joint, except its apex, and the base of the second yellow ; claws

of front and middle tarsi very unequal in size, the anterior claw of each pair bearing two teeth, the other with a single tooth, claws of hind tarsi of an equal size, each one-toothed; halteres yellow, becoming brown at the apex.

Female.—Differs from the male as follows: Antennæ dark brown, the first joint and base of the second yellow, the hairs dark brown, palpi dark brown, the basal third yellow, bearing a few rather long hairs; hind tibiæ yellow, the apices brown, tarsal claws equal, each one-toothed.

Length, excluding the proboscis, 6 mm. Three males and one female, received from Dr. W. C. Coker, of the Johns Hopkins University. Type No. 5793, U. S. National Museum.

Habitat.—Hartsville, South Carolina.

This fine species is respectfully dedicated to Dr. L. O. Howard, whose investigations have so much increased our knowledge of the early stages and distribution of the members of this important family.

Culex Curriei, new species.

Head black, scales on lower parts of occiput white, on the upper part light yellow, usually a patch of golden brown ones between, a few erect black scales and bristles on the sides, antennæ and mouth-parts dark brown, base of the former yellow; body black, scales of mesonotum light yellow, a median and usually a lateral vitta of golden-brown ones, those of the pleura white, of the abdomen yellowish-white, a pair of black-scaled spots on segments 2 to 5; femora and tibiæ yellow, brownish at the apices, covered with mixed yellowish-white and brown scales, tarsi brown, the front ones having the base and apex of the first two joints and base of the third, the middle with the base and apex of the first three joints and base of the fourth, the hind ones with both ends of the first four joints and the whole of the last one, whitish, all claws one-toothed; wings hyaline, scales of the veins mixed yellowish-white and brown, petiole of first submarginal cell about three-fourths as long as that cell; halteres yellow; length 4 to 5 mm. Five female specimens. Type No. 5798, U. S. National Museum.

Habitat.—University, N. Dakota (June, 1896; Mr. R. P. Currie, after whom the species is named); Colorado; Boise, Idaho (Mr. C. B. Sampson); and Palo Alto, Cal. (Nov. 8, 1900; Prof. V. L. Kellogg).

Near the European *C. dorsalis*, Meigen, but according to Theobald that species has simple tarsal claws.

Aedes Smithii, new species.

Black, the pleura largely, venter, bases of halteres, coxe and bases of femora yellow, scales of upper sides of body dark brown, some on the abdomen having a violaceous reflection, scales of femora black, those on the under side light yellow, scales of hind tibiae black, those on the inner side and on the front and middle tibiae and their tarsi light yellow, tarsal claws simple; wings hyaline, first submarginal cell nearly twice as long as its petiole; length 3 mm. Two males and three females bred from material received from Prof. J. B. Smith, after whom the species is named. Type No. 5799, U. S. National Museum.

Habitat.—Lahaway, New Jersey.

At the suggestion of the writer, Prof. Smith submitted specimens of this species to Mr. Samuel Henshaw, of the Museum of Comp. Zoology at Cambridge, Mass., for comparison with the type of *Aedes fuscus*, and Mr. Henshaw replied that the two forms are very distinct. The new species will readily be recognized by the absence of cross-bands of yellowish scales at the bases of the abdominal segments.

BOOK NOTICE.

CATALOG DER LEPIDOPTEREN des Palaearctischen Faunengebietes von
Dr. Phil., O. Staudinger und Dr. Phil., H. Rebel. Dritte Auflage des
Cataloges der Lepidopteren des Europaeischen Faunengebietes:
Berlin. Friedlander & Sohn, Mai 1901.

This is an old friend in a new dress, and yet the dress is not at first so different, for general arrangement, typography, method of citation, etc., are very much like those of the preceding edition. Part I., *Papilionidae* to *Hepialidae*, is by Staudinger and Rebel, and contains 411 pages, aside from the 30 pages of introduction and explanations. Part II., *Pyralidae* to *Micropterygidae*, is by Dr. Rebel, and contains 368 pages, which, however, include the generic and specific indices to both parts. That the work fully equals in all respects the previous edition goes without saying; it does even much more, and represents, though not fully, the intermediate progress in classification.

No one who has not met both authors can understand the real marvel of this combined work.

Dr. Staudinger, old, slow and conservative; utterly out of touch with modern methods; distrustful and suspicious of characters unfamiliar to

him ; positive in his convictions, with an almost unparalleled knowledge of species and the widest possible acquaintance with their distribution.

Dr. Rebel, young, active, prompt in decision and action ; fully acquainted with modern methods and in full sympathy with them ; appreciative of characters different from those traditionally used, open-minded, yet equally positive in opinion.

Two more divergent collaborateurs could scarcely be imagined, and the introductory remarks by Dr. Rebel show how slowly the work progressed and how nearly it was at times abandoned, owing to apparently irreconcilable differences of opinion. That it was the younger man who gave way in most cases appears plainly enough, and that in certain directions the catalogue would have been much improved had he had his way is also certain.

To mention one case only : the addition of the citation of the place of original description of the genera used, as desired by Dr. Rebel, would have improved the usefulness of the "Catalog" immensely for the general student.

The rules concerning nomenclature laid down in the second edition are approved and continued as a guide to the third edition.

The *Papilionidae* at the beginning of the butterflies is familiar; but the term *Rhopalocera* is lacking, and after the *Pieridae* we now have the *Nymphalidae* instead of the *Lycenidae*; which do not follow until after the *Libytheidae* and *Erycinidae*. The *Hesperiidae* end this series as usual; but we have now only VII. Families as against X., with 74 genera and 716 species, as against 44 and 456 of the previous edition.

The term *Heterocera* is also abandoned, and series like "Bombyces" or "Noctuae" have ceased to exist. Instead of that, VIII., *Sphingidae*, follows without comment after VII., *Hesperiidae*. It is a pity that in the *Sphingidae* the Smerinthine series could not have been placed at the foot as the more generalized, rather than *Thyreus*, which is certainly more specialized.

Now comes an important change, when "IX. *Notodontidae*," replaces the *Sesiidae* of the former edition and so X. *Thaumetopoda* and XI. *Lymantriidae*, are unfamiliar ; though as *Cnethocampa* and *Liparidae* we had been used to seeing them elsewhere. XII. *Lasiocampidae*, XIII. *Endromidae*, XIV. *Lemoniidae*, XV. *Saturniidae*, XVI. *Brahmaidae*, XVII. *Bombycidæ*, XVIII. *Drepanidae*, XIX. *Callidulidae*, XX. *Thyrididae*, precede in order the XXI. *Noctuidae*. These latter are divided into

Acronyctinæ, *Trifinæ*, *Gonopterinæ*, *Quadrifinæ* and *Hypeninæ*. All these have sub-family terminations; but under the rules generally accepted by American entomologists the terms *Trifinæ* and *Quadrifinæ* are improperly used for sub-families since there is no representative genus. These divisions represent a structural character.

The (XXII.) *Agaristidæ*, (XXIII.) *Cymatophoridæ* and (XXIV.) *Brephidæ*, precede the (XXV.) *Geometridæ*, which latter are divided into 5 sub-families.

Then come XXVI. *Uraniidæ*, XXVII. *Epiplemidæ*, XXVIII. *Nolidæ*, XXIX. *Cymbidæ*, XXX. *Syntomidæ* and XXXI. *Arctiidæ*, all in unusual sequence and in unfamiliar association: *Lithosiinæ* being degraded to sub-family rank.

Then come XXXII. *Heterogynidæ*, XXXIII. *Zygaenidæ*, XXXIV. *Megalopygide*, XXXV. *Cochliidæ* and XXXVI. *Psychidæ*, before at last we reach the *Sesiidæ* (XXXVII.), which lead to XXXVIII. *Cossidæ*, XXXIX. *Hepialidæ* and so to the end of Part I.

The *Hepialidæ* it will be noted are yet left among what are conventionally termed Macros, and not a hint of their association with the other "Jugatae" is given.

Part II. is by Dr. Rebel alone and includes the series usually called Micros. They are divided into 18 families of very unequal extent, the first and most extensive being the *Pyralidæ* with 26 genera and 1,309 species distributed in 12 sub-families. *Pterophoridæ* come second and compared with our fauna are very well represented. The *Orneodeidæ* make family III., without any very obvious relation to the *Tortricidæ* which come after them and are distributed in three sub-families. Then come the Tineid series, as V. *Glyphypterygide*, VI. *Yponomeutidæ*, VII. *Plutellidæ*, VIII. *Gelechiidæ*, IX. *Tipaegeiidæ*, X. *Elachistidæ*, XI. *Gracilariidæ*, XII. *Lyonetiidæ*, XIII. *Nepticulidæ*, XIV. *Taleporidæ*, XV. *Tineidæ*, XVI. *Crinopterygide*, XVII. *Eriocraniidæ* and XVIII. *Micropterygide*.

The importance of these departures in the new catalogue cannot be overestimated. "Staudinger" has been in such universal use in continental collections and has been so uniformly employed as a guide, that the system therein adopted had become crystallized. Now even the most conservative are forced forward a step, while to the novice who gets this new edition as his first guide, it will come as easily as the older order.

An excellent portrait of Dr. Staudinger forms the frontispiece, and is remarkably characteristic of the man as I saw him only a few weeks before his death. The last letter I received from him was in acknowledgment of a copy of my own "Catalogue of the Noctuidae of Temperate North America," and in this letter he mentioned his readiness to start for that "Erholungsreise" from which he never returned alive.

JOHN B. SMITH.

CORRESPONDENCE.

A PROTEST.

SIR,—I very frequently read remarks in Entomological papers deplored the fact that the large and interesting Order of Hymenoptera has comparatively so few students! One of the chief causes is the continual changing of already-established names, the creating of new species where only slight resemblance exists or where determination is based upon one lone ♂ or ♀ only, and the frequent retracting of passed opinions by some authors, as is the case with Prof. Robertson in *Prosopis ziziae*, Robt., in March number of Ent. News and CAN. ENT., May, 1896. Then again in CAN. ENT., Aug., 1901, such a lot of species and genera based upon imaginary (?) characters! What can one make of *Epeolus lectoides*, n. sp., based on one female "closely resembling *E. lectus*, Cr., and may be the same"? If an author cannot tell whether it is distinct or not, why name it? Again, "*Halictus truncatus*, n. sp.: This species and *H. arcuatus*, Robt., have both been identified as *H. similis*, Sm." *Chelostomoides*, n. g., proposed for a single species, "with general characters of *Megachile*." In Trans. Acad. Sc. of St. Louis, Vol. X., No. 2, the genus *Parandrena*, which has been proposed by him, is suppressed as needless. It remains to be seen whether the new genus *Paralictus*—CAN. ENT.—will fare better, and a few more instances which I will not mention. It is such work that is confusing, not to say disgusting, to a student like me.

R. J. WEITH, Elkhart, Ind.

ANOTHER PROTEST.

SIR,—I had been rather anxiously looking out for a further instalment of Mr. Hanham's list of Manitoban moths, as I wanted to compare notes about certain of the Geometers. It is just to hand, but when I

reached *Tephroclystis implicata*, etc., I threw it down in disgust. I fancy that almost every one the wide world over with any knowledge of entomology knows the old genus *Eupithecia*, or "Pugs" as we call them in England, but who outside a small circle of American pseudo-savants would know what is meant by the new name? What is a name in entomology? It is merely an arbitrary sign by which genera and species are distinguished one from another. To attempt to make entomology an exact science like mathematics seems to me the height of human folly. An injurious species will not be rendered less harmful by transfer from a genus in which it has quietly reposed for many years and become well known, into another genus and under another name. America does not constitute the whole of the world. There are other countries and other entomologists, although they do not stand out so prominently as do the Americans, the latter having been forced into activity by the peculiar natural conditions that here obtain, and which are not in force in Europe.

There seems to be a class of savants here who, to the honour and glory of themselves, and to the confusion of every one else, are endeavouring to upset everything that has been previously done elsewhere, as though their little world constituted the whole globe. They seem determined as far as possible to ignore that many fossils, plants, beetles, moths, and flies, etc., are common to both the Old and New Worlds, to say nothing of birds, fishes, mammals, etc., and that many other species only show slight variations in type, far less indeed than the inhabitant of the Eastern States differs from the typical "John Bull," his progenitor.

If I can only induce entomologists in America to take a world-wide view of matters, and not confine their ideas and minds to their own little collections, circumscribed by four walls, this feeble protest of mine will not be thrown away, and much pain and grief be saved to humble students like myself.

What a terrible punishment it would be in the hereafter to be doomed to perpetually make out new lists of such "jawcrackers" as appear in the list in question!

E. FIRMSTONE HEATH, Cartwright, Manitoba.

